

# Communicating the “WHY”

Stormwater Management Commission Annual Report



STORMWATER MANAGEMENT COMMISSION

2018  
year in review

# Message from the Director Mike Warner, P.E., CFM

Why does our agency perform planning, engineering, regulatory work, GIS mapping, communication and public outreach? Everything really boils down to two end goals; one - mitigate flooding, and two - improve surface water quality.

The extensive planning and engagement of the public and levels of government in that process, result in action plans that call for projects and programs to achieve those two goals. Our engineering work creates designs and specifications to build projects that accomplish those goals. The regulations applied to new development, protect and mitigate flooding and water quality impacts for the development itself and those effects off the development site. The GIS work and mapping enables communication and interaction with audiences in support of our work. Our communication and public outreach educates and empowers others to achieve the same goals, as we need to collaborate effectively for a successful outcome.

It's a powerful project management concept to 'start with end in mind' but would suggest that from a high-level view, that is a step toward getting to the 'why' end goals above. We have many accomplishments to be proud of, but there is much still to do.  
- Mike Warner

## Board of Commissioners

<b>Craig Taylor,</b> Chair — County Board District 19	<b>Kristina Kovarik,</b> Vice Chair — Mayor, Village of Gurnee	<b>Leon Rockingham,</b> Secretary — Mayor, City of North Chicago	<b>Ann Maine,</b> Treasurer — County Board District 21
<b>Alternate:</b> <b>Michael Danforth</b> — County Board District 17	<b>Alternate:</b> <b>Glenn Ryback</b> — President, Village of Wadsworth	<b>Alternate:</b> <b>Adam Didech</b> — County Board District 20	
<b>Nandia Black</b> — President, Village of Kildeer	<b>Mike Rummel</b> — County Board District 12	<b>Diane Hewitt</b> — County Board District 2	<b>John Hucker</b> — Mayor, Village of Beach Park
<b>Alternate:</b> <b>Mike Talbett</b> — Administrator, Village of Kildeer	<b>Alternate:</b> <b>Paul Frank</b> — County Board District 11	<b>Alternate:</b> <b>Brent Paxton</b> — County Board District 4	<b>Alternate:</b> <b>Richard Gust</b> — Trustee, Village of Beach Park
<b>John Wasik</b> — County Board District 6	<b>Linda Pedersen</b> — County Board District 1	<b>Donald Schmit</b> — Mayor, Village of Fox Lake	<b>Casey Urlacher</b> — Mayor, Village of Mettawa
<b>Alternate:</b> <b>Jennifer Clark</b> — County Board District 15	<b>Alternate:</b> <b>Judy Martini</b> — County Board District 5	<b>Alternate:</b> <b>Donovan Day</b> — Community Development Director, Village of Fox Lake	<b>Alternate:</b> <b>Roger Byrne</b> — Mayor, Village of Vernon Hills

## SMC Staff

<b>Mike Warner,</b> P.E., CFM, Executive Director	<b>Kurt Woolford,</b> P.E., CFM, LEED AP, Chief Engineer	<b>Mea Blauer,</b> Senior Civil Engineer	<b>Tim Cook,</b> CFM, CPESC, CWS, Water Resources Professional	<b>Juli Crane,</b> CWS, LEED, PWS, CFM, Principal Wetland Specialist
<b>Bob Gardiner,</b> P.E., CFM, Principal Permit Engineer	<b>Ernesto Huaracha,</b> Water Resources Professional	<b>Jacob Jozefowski,</b> Associate Water Resource Professional	<b>Jeff Laramy,</b> GISP, Senior GIS Analyst	<b>Joe Marencik,</b> Stormwater Coordinator
<b>Darcy McNeill,</b> Executive Assistant	<b>Wendy Morey,</b> Business Office Supervisor	<b>Sharon Østerby,</b> Water Resources Professional	<b>Angela Panateri,</b> Associate Communication Specialist	<b>Michelle Pope,</b> GIS Specialist/ Engineering Tech
<b>Mike Prusila,</b> CFM, Planning Supervisor	<b>Dijana Silber,</b> Accounting Tech	<b>Ashley Strelcheck,</b> Water Resources Professional	<b>Kelcey Traynoff,</b> E.I.T., Regulatory Supervisor	<b>Glenn Westman,</b> PWS, CWS, CFM, Principal Wetland Specialist

# 2018 By the Numbers

## Leveraging Funding and Partnerships for Projects



### Funding Ratio 3.3:1

\$1,766,505 Total Project Costs  
\$537,869 SMC Funding and In-Kind  
11 Projects Completed



### Project / Program Partnerships 46:1

42 Municipalities  
1 Park District  
1 Not-for-Profit  
2 Home Owners Associations  
Lake County  
Illinois Environmental Protection Agency (Illinois EPA)  
United States Environmental Protection Agency (USEPA)  
Federal Emergency Management Agency (FEMA)  
Illinois Emergency Management Agency (IEMA)  
Illinois Department of Natural Resources (IDNR)

# 2018 Water Quality Initiatives

## Municipal Separate Storm Sewer Systems (MS4) Permit Program

Through the MS4 program, SMC provides a variety of stormwater management activities across Lake County and assists Lake County's MS4s in meeting the requirements of the Illinois EPA's National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Program. The current Illinois EPA ILR40 General Storm Water Permit for MS4s requires programs to meet six minimum control measures (MCMs).

Lake County has multiple departments that report MCM activities as part of the permit compliance of Lake County. In 2018 an MS4 Program Coordinator Consultant was selected to manage and oversee the Lake County MS4 Program. 2018 services included:

- Compiling and filing of the Year 15 Annual Facilities Inspection report with Illinois EPA.
- Coordinating countywide stormwater, Illicit Discharge Detection and Elimination (IDDE) and good housekeeping training.
- Continuing to update the stormwater network map system to address all County properties.
- Inspection of 541 LCDOT outfalls for potential illicit discharges.

## The Des Plaines River Watershed Workgroup (DRWW)

The DRWW continues to fulfill the monitoring requirements of its constituents. According to the Illinois EPA, almost all the waterways within the Des Plaines River Watershed are impaired. To remove the watershed from the Illinois EPA's list of impaired waters, the Midwest Biodiversity Institute is determining the most cost-effective watershed-wide restoration projects. In anticipation of the permit renewal process in 2021 by the Illinois EPA, the workgroup is addressing the regulatory requirements of its constituents. The DRWW also provided professional development opportunities to members, stakeholders and constituents.

Visit [www.drww.org](http://www.drww.org) for more information.

# 2018 Project Summaries



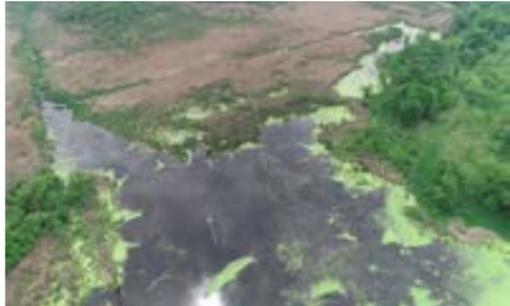
## Bull Creek Vegetative Restoration

Bull Creek is a ravine at the bottom of three tributaries located in the Dead River Watershed. It flows through Beach Park, into Illinois Beach State Park and enters Lake Michigan. The Bull Creek Stream Restoration Project was completed in 2017. During 2018, the vegetative maintenance was performed to the 2.77-acre project area, which will help to improve the long-term success of the habitat that exists.



## Dead Dog Creek Vegetative Restoration

Dead Dog Creek is a ravine located in Winthrop Harbor. It flows through Winthrop Harbor, into Illinois Beach State Park and enters Lake Michigan. The two phases of the Dead Dog Creek Stream Restoration Projects were completed in 2015. Vegetative maintenance occurred within the 5.37-acre project areas of Dead Dog Creek during 2018. This maintenance will continue to support the long-term success of the habitat which was restored during phase one and two of the project.



## Fiddle Creek (Lake Barrington)

Fiddle Creek (Lake Barrington) has significant flow blockages, causing flooding for residents. SMC is working with the Slocum Lake Drainage District and the Village of Lake Barrington to implement a drainage channel clearing project to mitigate the problem. Based on SMC drone recon, the team was able to identify obstructed areas and develop a scope of work. As of December 2018, two-thirds of obstructions have been cleared using low ground pressure, amphibious equipment, and the last third is planned to be removed in early 2019. Future phases are also planned to continue the work upstream.



## Flint Creek Stream Gage Project

The Flint Creek/Spring Creek Watersheds Partnership has four stream gages, and recently installed a fifth gage, which was funded by SMC. This stream gage monitors the North Branch of Flint Creek, which begins in Lake Zurich, flows through North Barrington, and enters Flint Lake in Lake Barrington.

The five gages provide insight on the health of the South, East and North Branches of Flint Creek, as well as readings after the branches have joined to form the mainstream. With this configuration, the Partnership can assess the effectiveness of any remedial activities performed on different parts of Flint Creek by various municipalities.

By looking at data from the five gages, the Partnership can now:

- Measure water levels, water temperature, specific conductivity, and estimated total dissolved solids on an hourly basis.
- Estimate, when combined with water quality data, Total Maximum Daily Loading (TMDL) for the total watershed and each of the two sub-watersheds.
- Assess the annual amount of groundwater discharge to the watershed – critical for assessing the changes in the groundwater storage available to the local population.
- Estimate the annual amount of recharge to groundwater in the watersheds, another indicator of the health of the groundwater system.

## Municipal Advisory Committee (MAC)

MAC is a resource for local government representatives on inter-jurisdictional issues, projects, and committee and administration recommendations. The current IEPA ILR40 General Storm Water Permit for MS4s requires programs to meet six MCMs.

SMC is a continual resource for all of Lake County's MS4 programs, serving as a Qualifying Local Program (QLP) and performing activities in support of the MCMs.

2018 support included:

- Updating the Year 15 Facilities Annual Reporting template, which is an annual permit requirement.
- Providing a new MS4 illicit discharge staff training resource video and exam.
- Providing two new online community awareness videos in English and Spanish regarding, Illicit Discharge Education and Elimination.
- Providing educational opportunities at the MAC quarterly meetings, including information on permit updates, template use, and important compliance information.
- MAC elected a new chair and co-chair for 2018-2020. Erika M. Frable, Village of Hawthorn Woods Director of Public Works/Village Engineer was elected chair and Chris Bouchard, RHMG Engineers (Mundelein) was elected vice-chair (re-appointment).

## Wetland Restoration and Preservation Plan (WRAPP)

SMC finished data analysis and development of the web-based Decision Support Tool for the Wetland Restoration and Preservation Plan (WRAPP) for Lake County in 2018. A draft technical report will be available for review in early 2019. The WRAPP will identify local wetland functions, as well as identify opportunities for preserving, restoring, and enhancing wetlands in the County. SMC used field data to calibrate the study results and update the geographic database (map layers) for this project.

The overall objectives for developing the WRAPP include enhancing floodwater storage, surface water quality improvement, groundwater recharge, aquatic and wildlife habitat, and recreational and aesthetic benefits for communities. The project was funded by a \$159,489 US EPA Wetland Program Development grant with in-kind match.

## Lake Michigan Watershed-Based Plan

SMC entered into grant agreements with the Illinois Department of Natural Resources-Coastal Management Program (\$100,000) and the Illinois EPA under Section 319 of the Clean Water Act (\$30,000) to develop a management plan for the Lake Michigan watershed in Lake County and seven ravines in northern Cook County. SMC began a comprehensive inventory of nearly 50 ravine systems in late 2018 utilizing its internship program. The results of this inventory are expected to be available in late winter/early spring of 2019 and will be one of the many sources of data used to develop recommendations for the watershed plan. Stakeholder meetings related to plan development will begin in 2019 and the plan is expected to be completed in late 2020. When completed, the Lake Michigan Watershed-Based Plan will provide recommendations to local governments, property owners, and other stakeholders to reduce flood damages, improve water quality and stormwater management measures, and enhance the natural drainage system.

## North Barrington / Route 59 Drainage Restoration

The North Barrington/Route 59 Drainage Restoration project includes construction of a swale and storm sewer to lower the overtopping elevation of a depressional flood hazard area. Failures and obstructions of the existing field tile system have resulted in frequent flood hazards to Illinois Route 59 and the surrounding homes and properties. This project will reduce the flood hazard and nuisance flooding that has been occurring for years.

## Chesapeake Landing Pond Shoreline Restoration

SMC was awarded a grant through Section 319 of the Clean Water Act by the Illinois EPA in 2017 for three projects with local partners in Lake County. The first of these to be constructed and completed was the Chesapeake Landing Pond Shoreline Restoration Project with the Grayslake Community Park District in the summer of 2018. The project is located on the north side of Washington Street west of Illinois Route 83 and stabilized the entire eroding shoreline of a 2.4-acre pond using best management practices such as coir fiber rolls and a shoreline buffer of native vegetation. Prior to the project, erosion of the turfgrass shoreline and banks contributed sediment to the pond and total suspended solids and excess nutrients to Mill Creek. The Grayslake Park District maintained the pond, but the original design and construction resulted in shoreline erosion that could not be adequately and sustainably addressed with routine maintenance alone.

The Chesapeake Landing Pond is a “headwater” of a branch of Mill Creek known locally as the Avon-Fremont Drainage Ditch. Shoreline stabilization and best management project retrofitting” of the pond and installation of native shoreline vegetation was identified in the Mill Creek Watershed and Flood Mitigation Plan, which was considered by the Illinois EPA in funding this work. The total cost for the project was \$156,947 of which \$67,450 was reimbursed through the Section 319 grant and the balance provided in matching funds by the park district.



## Lake County Makes it a Priority to Use Salt Responsibility

Using salt to de-ice roads is a common method to make roads less slick, but that salt washes away into lakes and streams or seeps into groundwater supplies which can threaten aquatic plants and animals, and even human health. Lake County makes it a priority to use salt wisely while maintaining the highest level of service. This is the 10th year that the County hosted the Annual Deicing Workshop to promote alternative winter maintenance practices and the importance of responsible road salt use to snow and ice professionals.

Earlier this year, Lake County was recognized as a leader in snow and ice control and received the 2018 Excellence in Snow and Ice Control Award from the American Public Works Association (APWA). The annual deicing workshops were one of the components noted in the recognition for providing an innovative, safe, and environmentally friendly snow and ice control program to the residents of Lake County.



## Grand Opening of the Third Lake Dam

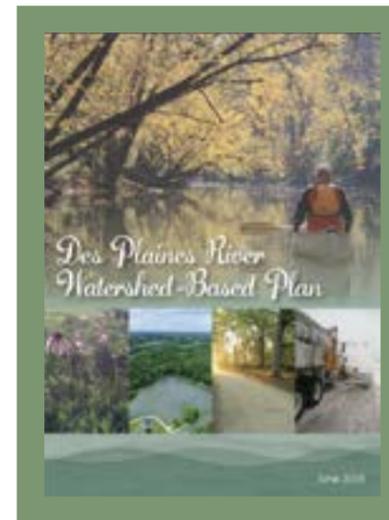
In mid-2017, construction began on the Third Lake Dam renovation project because the existing dam was nearing the end of its functional life. The new dam was designed to increase control over high water events, which will help minimize shoreline erosion caused by fluctuating water lines and as a flood hazard reduction from greater control of outflow. Representatives from SMC joined the Village of Third Lake for a ribbon cutting ceremony at the Third Lake Dam on Thursday, October 25, 2018.



# 2018 Major Initiatives

## Des Plaines River Watershed-Based Plan: COMPLETE

The Des Plaines River Watershed-Based Plan was completed in June 2018 and approved by the Illinois EPA in September 2018. SMC is currently in the process of starting community adoption efforts by reaching out to watershed stakeholders. The Des Plaines River Watershed-Based Plan encompasses 235 square miles within Lake County, Illinois, small portions



of Cook County, Illinois and Kenosha County, Wisconsin; making this umbrella plan the largest watershed planning effort SMC has undertaken!

The Des Plaines River Watershed-Based Plan will be used as a guide to restore watershed lakes, streams, and wetlands to a healthy condition while reducing the impacts of water pollution and flood damage for residents and businesses. This watershed-based plan will provide community and stakeholder organizations eligibility for grant funding to implement projects and programs recommended in the plan.

*Funding for this project provided, in part, by the Illinois EPA through Section 319 of the Clean Water Act.*

## North Branch Chicago River Watershed-Based Plan Update

SMC was awarded a Section 319 grant through the Illinois EPA to update the 2008 North Branch Chicago River (NBCR) Watershed-Based Plan. The grant period extends from November 15, 2018 through December 31, 2020.

This update creates one overall watershed-based plan that meets the nine U.S. EPA criteria, and benefits from biological, physical, and water and sediment chemistry monitoring. The comprehensive watershed-based plan is needed to guide BMP implementation for the entire NBCR watershed to achieve cost and pollution effective solutions to water quality impairments that can be undertaken by local stakeholders. SMC will partner with the North Branch Watershed Workgroup (NBWW) to address water quality issues through improved monitoring, project identification, and watershed planning and implementation. The monitoring program will establish a baseline for biological, habitat and water and sediment chemistry parameters and will inform project identification and the watershed plan. The NBWW exemplifies a cohesive local effort to achieve pollution reduction results and water quality improvement in the watershed.

## North Branch Chicago River Watershed Workgroup (NBWW)

The North Branch Chicago River Watershed Workgroup (NBWW) is a voluntary, dues-paying organization with a mission to bring together a diverse coalition of stakeholders to work to improve water quality in the North Branch Chicago River watershed. The NBWW monitors water quality in the North Branch Chicago River watershed and will provide long term monitoring to gain a better understanding of the stressors to the aquatic system. In addition to meeting Illinois EPA NPDES permit requirements, the NBWW can prevent duplicated monitoring efforts and will accomplish more with less!

SMC has provided administrative and technical services for the NBWW since January 17, 2018. SMC also awarded the NBWW with a \$12,000 Watershed Management Assistance Grant (WMAG) in January 2018.

### 2018 Accomplishments

Midwest Biodiversity Institute (MBI) performed Bioassessment monitoring and sediment collection in the watershed. MBI sampled 11 out of 25 monitoring sites for fish, habitat and sediment sampling, as well as macroinvertebrate sampling. North Shore Water Reclamation District (NSWRD) conducted water column chemistry and sediment chemistry analysis within the watershed from samples collected in May, July, August, September and October 2018.

Visit [www.nbwwil.org](http://www.nbwwil.org) for more information.



**NORTH BRANCH  
CHICAGO RIVER  
WATERSHED  
WORKGROUP**

# Staff Acknowledgements

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In mid-September, Kelcey Traynoff was promoted to regulatory supervisor. Kelcey will have many new and exciting challenges, but one of her main responsibilities in her new role will involve helping communities throughout Lake County become re-certified to administer the Lake County Watershed Development Ordinance (WDO) within their community.

## New Staff Members

### Michelle Pope

GIS Specialist/Engineering Technician: Michelle will be responsible for various tasks related to stormwater management including: assisting with stream and detention basin inventory training for interns, assisting in the inspection of permitted and construction related developments, preparing GIS figures and analysis in support of planning and regulatory efforts, and more.



### Mea Blauer

Senior Civil Engineer: Mea will be responsible for many important tasks such as field inspections, organizing the annual Designated Erosion Control Inspector Program (DECL) workshop, assisting in stormwater reviews, and more.



### Joe Marencik

Stormwater Coordinator: Joe is responsible for advancing Lake County's environmental goals and supporting compliance with the National Pollution Discharge Elimination System (NPDES) MS4 permit.

